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Chest Letter to Editor

We read with interest the recent analysis in *CHEST* of the outcomes and complications associated with temporary transvenous pacing (1). The authors should be congratulated on providing observational data on such a large dataset of 360,223 patients in the United States. Previously many studies have been performed on much smaller datasets or in single centres (2, 3).

Our own impression is that trainees in general internal medicine (GIM) and cardiology here in the South West of England were becoming less skilled at performing transvenous temporary pacing. We conducted surveys of trainees in 2008 and 2016. These identified that the mean number of TTPs inserted by trainees had significantly decreased and that self assessed ratings of confidence in performing the procedure had also declined. It is interesting therefore that in the US data the total number of procedures has remained constant. This differs from the experience UK trainees surveyed over a mixture of regional and tertiary hospitals are receiving. It is acknowledged that these numbers are being maintained by temporary systems being inserted to support transcatheter aortic valve replacement (TAVR) or complex coronary intervention procedures.

TTP insertion by inexperienced doctors has been associated with a greater frequency of complications (2). The dataset appears to lend further support to this by identifying that teaching hospital status is associated with an increased risk of cardiac tamponade (odds ratio 1.91, 95% confidence interval 1.53-2.40). It is encouraging to see that the overall burden of complications appears relatively small however. We wonder whether there is any data on the level of experience of clinicians performing TTP to assess whether the grade of trainee has influenced the complication rate and strategies to ensure the best outcomes both from a training and patient experience perspective. In the UK TTP insertion has become a Consultant (Attending) Cardiologist procedure. We keenly ask what strategies the authors may suggest to ensure that the skills of temporary transvenous pacing do not go into permanent decline.

1. Metkus TS, Schulman SP, Marine JE, Eid SM. Complications and outcomes of temporary transvenous pacing: an analysis of over 360,000 patients from the National Inpatient Sample. *Chest*. 2018. <https://doi.org/10.1016/j.chest.2018.11.026>
2. Betts TR. Regional survey of temporary transvenous pacing procedures and complications. *Postgraduate medical journal*. 2003; 79(934):463-5.
3. Petch MC. Temporary cardiac pacing. *Postgraduate medical journal*. 1999; 75(888):577-8.